

Applicant : Alan Coull
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Attorney's Docket No.: 11033-064001 / H09867US

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously Presented) A method of printing information on each article of a set of articles arranged in generally parallel lanes, at a printing station, the method comprising:
providing the printing station including
a gantry,
a carriage mounted to the gantry, and
a printing apparatus having a housing mounted on the carriage, and a print head,
the printing apparatus being movable transversely across the lanes;
continuously moving the printing apparatus transversely across the lanes to bring the printing apparatus into registry with each article of the set in turn;
at each registry position, whilst continuing to move the printing apparatus, moving the print head of the apparatus relative to the housing and relative to the respective article to a printing position in which the print head is capable of printing information on the article;;
continuing to move the printing apparatus transversely relative to the article whilst effecting printing with the print head; and
when the information is printed, whilst continuing to move the printing apparatus transversely, moving the print head relative to the housing out of the printing position.
2. (Previously Presented) A method according to claim 1 wherein the printing apparatus is continuously moved across the carriage transversely across the lanes, relative to a base structure relative to which each of the articles of the set is held stationary during printing.
3. (Previously Presented) A method according to claim 2 wherein the carriage is moved transversely of the lanes at a generally constant speed.
4. (Previously Presented) A method according to claim 1 wherein all of the articles of the set are positioned at the printing station simultaneously whilst the printing apparatus is moved transversely across all the lanes.
5. (Previously Presented) A method according to claim 1 wherein the articles are conveyed severally in their respective lanes, to the printing station, and are arranged to be

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present at the printing station so that the printing apparatus may be moved into registry with the articles and printing performed, whilst the printing apparatus is continuously moved.

6. (Canceled)

7. (Previously Presented) A method according to any claim 1 wherein the print head is of the kind having a plurality of printing elements which are selectively actuated during printing by a control means to effect printing of desired information on each of the articles.

8. (Previously Presented) A method according to claim 1 wherein the printing apparatus is a thermal printer in which there are printing elements arranged in a generally linear array along the print head with the array extending generally transversely to the direction of movement of the printing apparatus across the lanes, the method including selectively energising the printing elements during printing to remove pixels of marking medium from a carrier positioned between the printing elements and the article.

9. (Previously Presented) A method according to claim 8 wherein the method includes moving the carrier relative to the print head as the printing apparatus moves transversely of the lanes of articles during printing, so as that fresh carrier is continually being positioned between the print head and the article on which information is being printed.

10. (Previously Presented) A method according to claim 8 wherein the printing apparatus includes a housing within which there is provided a storage spool for unused carrier, a take-up spool for used carrier, a first motive means to move at least the take-up spool to take up used carrier, and a second motive means to move the print head to and from the printing position.

11. (Previously Presented) A method according to claim 1 which includes conveying the articles of the set in their parallel lanes to the printing station, arresting movement of the set of articles at the printing station while the information is printed on each of the articles of the set.

12. (Previously Presented) A method of printing information on each article of a set of articles arranged in generally parallel lanes, at a printing station, the method comprising:
continuously moving a printing apparatus relative to the lanes to bring the printing apparatus into registry with each article of the set in turn, the printing apparatus including a print head and a carrier for marking medium which is applied to the articles during printing;
at each registry position, whilst continuing to move the printing apparatus, effecting printing with the print head; and
when the information is printed, continuing to move the printing apparatus to the next registry position.

13. (Previously Presented) A method according to claim 12 wherein the method is applied to printing apparatus having a thermal print head having printing elements which are

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selectively energised during printing to melt and remove pixels of marking medium from the carrier and deposit the pixels of ink on to the articles.

14. (Canceled)

15. (Canceled)

16. (Previously Presented) A printing station comprising: a carriage, a printing apparatus mounted on the carriage, the carriage being moveable to move the printing apparatus transversely of a plurality of lanes whilst the printing apparatus effects printing on each of a plurality of articles at the printing station, each of the articles being located in one of the lanes, the carriage being moveable substantially continuously across the lanes whilst the printing apparatus prints the information on each of the articles of the set in turn without or substantially without stopping;

wherein the printing apparatus includes a housing mounted on the carriage, and a print head capable of being moved relative to the housing to and from a printing position.

17. (Previously Presented) A station according to claim 16 wherein the carriage is mounted on a gantry which extends over the lanes and the printing apparatus is moved over the lanes on the carriage.

18. (Canceled)

19. (Previously Presented) A station according to claim 16 wherein movement of the carriage is controlled by a controller which co-ordinates printing with carriage movement.

20. (Canceled)

21. (Canceled)